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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/601,445

06/23/2003

Arpan A. Desai

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WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION)

CIRA CENTRE, 12TH FLOOR

2929 ARCH STREET

PHILADELPHIA, PA 19104-2891

EXAMINER

GORTAYO, DANGELINO N

ART UNIT

PAPER NUMBER

2168

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/601,445	DESAI ET AL.	
	Examiner	Art Unit	
	Dangelino N. Gortayo	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-8 and 10-15 are pending in this application.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/2006 has been entered.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim, in line 1, uses the term "executable". This word is passive, and does not narrow the claim in any way. The system for construction of executable queries merely states that the system has the potential to construct queries, with no way of executing said queries, and does not distinctly claim the scope of the claimed invention.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-8 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to a system claim that lacks an actual data structure containing a physical or logical relationship among data elements, designed to support specific data manipulation functions. The claims are directed to software per se and are non-statutory. While method steps are outlined, the body of the claim is directed to a system. Please clarify the method steps within a system claim to delete any ambiguity in the claim. Proper correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-8 and 10-15 are rejected under 35 U.S.C. 103(a) as being anticipated by Silberberg et al. (US Patent 6,957,214 B2) in view of Manikutty et al. (US Patent 7,120,645 B2)

As per claim 1, Silberberg teaches "In a system for construction of executable queries," (see Abstract) "a method of communicating with an application" (column 5 lines 47-62)

the system receiving from the application, one or more calls to set one or more compile parameters and commands for converting one or more input queries to an XML intermediate language representation, (Figure 13, column 6 lines 55-65, column 7 lines 19-29 and lines 53-67, and column 14 lines 11-20, wherein user domain models are provided describing mapping between terminology and models, used when query translation is executed) wherein the XML intermediate language representation is a composite of the plurality of input queries, (Figure 6 and column 8 line 58 – column 9 line 6, wherein a generic domain model is composed of terminology used in a group of domain queries), and has a graph structure;” (Figure 11, 13, column 11 lines 1-6, column 14 lines 19-38, wherein the model has a graph structure represented by a canonical modeling language)

and the system receiving from the application, one or more calls to convert the XML intermediate language representation to at least one executable query, the at least one executable query enabling the system to query over a plurality of data sources having differing data models (column 9 lines 12-38, column 10 lines 15-33, and column 13 lines 14-20, wherein the system translates the model to high-level queries of each different data source).

Silberberg does not teach the XML intermediate language representation is an explicit representation of the meaning of the plurality of input queries. Manikutty teaches the XML intermediate language representation is an explicit representation of the meaning of the plurality of input queries (Figure 5, column 20 line 63 – column 21 line 44, column 22 lines 47-67, wherein queries are translated to a normalized tree of

canonical functions, wherein the nodes of a tree represent operations, and the tree describing the query). It would have been obvious at the time of the invention for one of ordinary skill in the art to combine Silberberg's method of query translation into models that apply to heterogeneous data sources with Manikutty's method of an intermediate language model/representation being an explicit representation of a group of input queries during the process of query translation. This gives the user the ability for a query to be broken down into a group of primitive queries for use in an intermediate model when querying heterogeneous data sources, making the query more complex and providing better information in the task. The motivation for doing so would be to provide the user with queried information in a timely and efficient manner (Silberberg, column 1 lines 24-34).

As per claim 2, Silberberg teaches "the application receiving from the system one or more of the group consisting of event status, progress status, intermediate results, final results, error messages, warnings and help messages" (column 6 lines 12-33 and column 8 lines 46-50)

As per claim 3, Silberberg teaches "the one or more calls to set one or more environment, compile parameters and compile commands comprise one or more of enabling message reception from the system, specifying query permission and execution restrictions, selecting the input query and compiler type, and establishing evaluation contexts." (Figure 8 and column 6 lines 42-54)

As per claim 4, Silberberg and Manikutty are taught in claim 3 above.

Additionally, Manikutty teaches “the compiler type comprises XPath, XSLT and XQuery language compilers” (column 5 line 63 – column 6 line 9, column 6 lines 23-36).

As per claim 5, Silberberg teaches “the XML intermediate language representation is a semantic representation of an input query” (column 7 lines 19-29)

As per claim 6, Silberberg teaches “converting the XML intermediate language to the executable query comprises preparing the XML intermediate language for direct execution in a target query execution engine, wherein the direct execution avoids the use of a compiler for the target execution engine” (column 9 lines 49-67)

As per claim 7, Silberberg teaches “converting the XML intermediate language to the executable query comprises converting the XML intermediate language into a target representation using a target generator” (column 14 lines 27-40 and column 15 lines 21-29)

As per claim 8, Silberberg teaches “the target representation is one or more of the group consisting of an XML language target, a SQL language target and an intermediate language target.” (column 6 lines 34-41 and column 10 lines 43-50).

As per claim 10, Silberberg teaches “A system for compilation and execution of input queries producing query results,” (see Abstract)

“comprising: a plurality of input devices for receiving a plurality of input queries;” (Figure 1 “ADINA”, Figure 15, and column 6 lines 12-19, wherein a data system accepts queries)

one or more intermediate language compilers wherein a composite XML intermediate language representation is compiled from the plurality of input queries (Figure 6 and column 8 line 58 – column 9 line 6, wherein a generic domain model is composed of terminology used in a group of domain queries), wherein the XML intermediate language has a graph structure,” (Figure 11, 13, column 11 lines 1-6, column 14 lines 19-38, wherein the model has a graph structure represented by a canonical modeling language)

“a plurality of target generators wherein the XML intermediate language representation is transformed into a plurality of target queries,” (column 9 lines 12-38, column 10 lines 15-33, and column 13 lines 14-20, wherein the system translates the model to high-level queries of each different data source).

“a plurality of data sources for querying over,” (column 6 lines 34-41, wherein a plurality of data sources can be queried)

“and a plurality of execution engines wherein the plurality of target queries are executed over the plurality of data sources to produce the query results.” (column 9 lines 49-67, wherein Domain User Agents execute the queries provided by the translation)

Silberberg does not teach the XML intermediate language representation is an explicit representation of the meaning of the plurality of input queries. Manikutty teaches the XML intermediate language representation is an explicit representation of the meaning of the plurality of input queries (Figure 5, column 20 line 63 – column 21 line 44, column 22 lines 47-67, wherein queries are translated to a normalized tree of

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canonical functions, wherein the nodes of a tree represent operations, and the tree describing the query). It would have been obvious at the time of the invention for one of ordinary skill in the art to combine Silberberg's method of query translation into models that apply to heterogeneous data sources with Manikutty's method of an intermediate language model/representation being an explicit representation of a group of input queries during the process of query translation. This gives the user the ability for a query to be broken down into a group of primitive queries for use in an intermediate model when querying heterogeneous data sources, making the query more complex and providing better information in the task. The motivation for doing so would be to provide the user with queried information in a timely and efficient manner (Silberberg, column 1 lines 24-34).

As per claim 11, Silberberg and Manikutty are taught in claim 3 above.

Additionally, Manikutty teaches "the plurality of input queries comprises a queries formed from one or more of XPath, XSLT, and XQuery languages" (column 5 line 63 – column 6 line 9, column 6 lines 23-36).

As per claim 12, Silberberg teaches "the XML intermediate language representation expresses the meaning of the input query" (column 7 lines 19-29)

As per claim 13, Silberberg teaches "the plurality of target generators comprise one or more of an XML language generator, a SQL language generator and an intermediate language generator." (column 6 lines 34-41 and column 10 lines 43-50)

As per claim 14, Silberberg teaches “the plurality of data sources comprise one or more of relational data sources and non-relational data sources” (column 6 lines 34-41)

As per claim 15, Silberberg teaches “non-relational data sources comprise spreadsheets and word processing documents” (column 6 lines 34-41 and column 7 lines 52-59)

Response to Arguments

9. Applicant's arguments with respect to 1-8 and 10-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Baclawski (US Patent 6,772,148 B2)

Ter Horst (US Publication 2005/0120027 A1)

Chu (US Patent 7,039,622 B2)

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dangelino N. Gortayo whose telephone number is (571)272-7204. The examiner can normally be reached on M-F 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim T. Vo can be reached on (571)272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

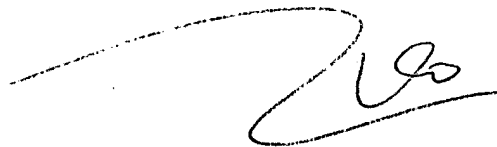
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Dangelino N. Gortayo
Examiner



Tim T. Vo
SPE



TIM VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100